

Atwood

OAK RIDGE NATIONAL LABORATORY
OPERATED BY
CARBIDE AND CARBON CHEMICALS COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION



POST OFFICE BOX Y
OAK RIDGE, TENN.

Sept. 1, 1955

Dear Josh,

I think your letter to SCIENCE states the temperate position admirably, except that it will seem absurd to the recent enthusiasts that the time of interruption of mating could influence post-zygotic events. In this connection, I hear through Volkin that Garen and Skaar get a different result when they interrupt the matings by phage infection of the Hfr member of the pair. One would suppose, as a first approximation, that prezygotic events would be influenced in the same way by the different modes of interruption, but even this/uncertain.

Camp Detrick, where I spent Monday and Tuesday of this week, left me with mixed feelings. Werner Braun had come down from Rutgers to act as chief salesman and it is obvious that he genuinely feels the place (CD) offers a perfect setting for original and independent work. I must agree that it is superbly equipped and has a good technical staff, but I would have to supply all my own morale in a situation which might, at times, be fairly depressing. Anyway, my mind is not yet made up, and the outcome may be contingent to a large extent on the results of my inquiries into the availability (or willingness) of others. If I take the job it will be with the intention of staying only a few years.

Pittenger has turned up an interesting thing in *Neurospora*. A stock marked with lys (4545) shows rather sickly growth on all media, but forms heterokaryons which are, at first, quite normal. In long growth tubes these heterokaryons rather abruptly slow down and stop at a distance from the inoculum which is inversely related to the initial proportion of lys. The nuclear proportions do not change during growth, however. Conidia sampled at intervals along the tube show a precipitous decrease in viability with increasing distance from the inoculum. This viability change begins immediately, and thus precedes by a great distance the retardation of growth rate. By the time growth rate is affected, the conidial viability is of the order of 10^{-6} . A fair proportion of the inviable conidia form microcolonies which can be "rejuvenated" by heterokaryosis with other stocks. The resultant heterokaryons again become inviable. The viability of conidia in this system is unrelated to their nuclear constitution, thus Pittenger has been able to transfer the character whose expression I have just described from the lys to a pan stock by isolating microcolonies which are homokaryotic for pan. So far he has not succeeded in transferring the agent by homogenates.

Just now José Reissig is here to observe *Neurospora* techniques for recessive lethals etc., which he plans to use during his stay with Auerbach in Edinburgh. He sends you his regards.

My best to you and Esther.

Sincerely,

K. Atwood